

BS ISO 10228:2011



BSI Standards Publication

Cross-country skis — Binding mounting area — Requirements for test screws

bsi.

...making excellence a habit.™

National foreword

This British Standard is the UK implementation of ISO 10228:2011. It supersedes BS ISO 10228:1991, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee SW/136/7, Snowsports equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© BSI 2011

ISBN 978 0 580 70614 1

ICS 97.220.20

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 May 2011.

Amendments issued since publication

Date	Text affected
------	---------------

INTERNATIONAL STANDARD

BS ISO 10228:2011

ISO
10228

Second edition
2011-05-15

Cross-country skis — Binding mounting area — Requirements for test screws

*Skis de fond — Zone de montage de la fixation — Exigences pour les
vis d'essai*



Reference number
ISO 10228:2011(E)

© ISO 2011



COPYRIGHT PROTECTED DOCUMENT

© ISO 2011

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10228 was prepared by Technical Committee ISO/TC 83, *Sports and recreational equipment*, Subcommittee SC 4, *Snowsports equipment*.

This second edition cancels and replaces the first edition (ISO 10228:1991), which has been technically revised.

Introduction

The use of test screws ensures the comparability of measurement data, which are determined by the manufacturer or other institutions by testing the binding mounting area of cross-country skis.

Cross-country skis — Binding mounting area — Requirements for test screws

1 Scope

This International Standard specifies the dimensions, mechanical properties and fastening characteristics of test screws used for testing the binding mounting area of cross-country skis.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1478, *Tapping screws thread*

ISO 2702, *Heat-treated steel tapping screws — Mechanical properties*

ISO 7794, *Cross-country skis — Ski-binding screws — Requirements*

ISO 7795, *Cross-country skis — Ski-binding screws — Test methods*

3 Terms and definitions

For the purposes of this document, the definitions given in ISO 7794 and the following apply.

3.1

test screw

fastener, which is used for testing the binding mounting area to ensure the comparability of measurement data

4 Designation

Test screws in accordance with this International Standard shall be designated by:

- a) the words “Test screw”;
- b) the reference to this International Standard, i.e. ISO 10228;
- c) their nominal dimensions, i.e. diameter × length.

EXAMPLE Test screws with a nominal diameter of 6,3 mm and a length of 18 mm would be designated:

Test screw ISO 10228 — 6,3 × 18

5 Requirements

5.1 General

The strength requirements and typical application characteristics of cross-country ski-binding test screws shall be tested in accordance with ISO 7795.

5.2 Materials

Test screws shall be made of steel as specified in ISO 2702, which shall comply with the additional requirements in 5.4 and 5.5 of this International Standard.

5.3 Dimensions

5.3.1 Screw head

Test screws shall be cross recess type Z No. 3 with a recommended minimum penetration depth of 2,72 mm to 3,18 mm (see ISO 4757).

If screws having countersunk heads are used, the angle of countersinking $90^{\circ} \begin{smallmatrix} +2^{\circ} \\ -0^{\circ} \end{smallmatrix}$ is recommended.

5.3.2 Thread and end configuration

The cross-section of the test screw may be circular or non-circular within the major diameter of $6,3 \text{ mm} \begin{smallmatrix} 0 \\ -0,15 \end{smallmatrix}$ mm (see Figure 1).

The thread length shall be at least 1 mm longer than the penetration depth, irrespective of the shaft length. The tolerance on the length of the screw shall be $\pm 0,6$ mm.

The shaft end shall correspond to Figure 1.

5.4 Surface

Test screws shall be coated or plated with materials which provide adequate protection against corrosion and ensure a reproducible coefficient of friction.

For example, a suitable coating would be a zinc electroplated coating, Fe/Zn 5c (see ISO 4042), having a clear chromate conversion coating and a minimum local thickness of 5 μm (batch average 4 μm min., 6 μm max.), when measured on the top surface of the screw head.

During electroplating, adequate precautions shall be taken to avoid hydrogen embrittlement.

5.5 Application characteristics

5.5.1 General

The specified fastening and mounting characteristics of the test screw shall be based on a uniform drill diameter of $3,6 \text{ mm} \begin{smallmatrix} +0,15 \\ 0 \end{smallmatrix}$ mm.

5.5.2 Strength requirements

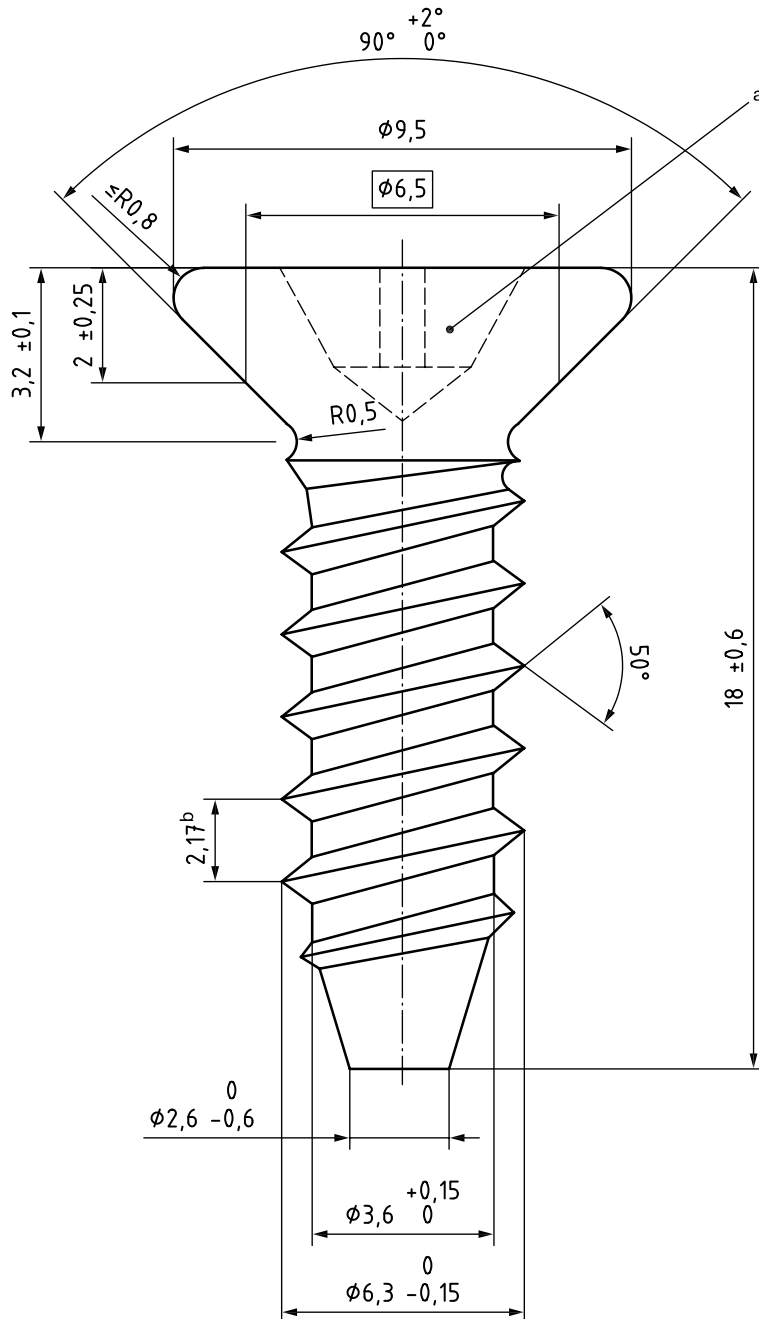
The breaking moment for test screws under a torque of the same axis and direction as the driving torque shall be not less than 10 N·m.

The screws shall not break when subjected to the conditions of the ductility test.

5.5.3 Fastening characteristics

The mean static pull-out resistance shall correspond to at least that of a reference screw complying with the requirements of ISO 1478, type F, and having a nominal diameter of 6,3 mm.

Dimensions in millimetres



a Cross-recess type Z No. 3 in accordance with ISO 4757.

b Pitch.

Figure 1 — Head, thread and end configuration

Bibliography

- [1] ISO 4042, *Fasteners — Electroplated coatings*
- [2] ISO 4757, *Cross recesses for screws*

British Standards Institution (BSI)

BSI is the national body responsible for preparing British Standards and other standards-related publications, information and services.

BSI is incorporated by Royal Charter. British Standards and other standardization products are published by BSI Standards Limited.

About us

We bring together business, industry, government, consumers, innovators and others to shape their combined experience and expertise into standards-based solutions.

The knowledge embodied in our standards has been carefully assembled in a dependable format and refined through our open consultation process. Organizations of all sizes and across all sectors choose standards to help them achieve their goals.

Information on standards

We can provide you with the knowledge that your organization needs to succeed. Find out more about British Standards by visiting our website at bsigroup.com/standards or contacting our Customer Services team or Knowledge Centre.

Buying standards

You can buy and download PDF versions of BSI publications, including British and adopted European and international standards, through our website at bsigroup.com/shop, where hard copies can also be purchased.

If you need international and foreign standards from other Standards Development Organizations, hard copies can be ordered from our Customer Services team.

Subscriptions

Our range of subscription services are designed to make using standards easier for you. For further information on our subscription products go to bsigroup.com/subscriptions.

With **British Standards Online (BSOL)** you'll have instant access to over 55,000 British and adopted European and international standards from your desktop. It's available 24/7 and is refreshed daily so you'll always be up to date.

You can keep in touch with standards developments and receive substantial discounts on the purchase price of standards, both in single copy and subscription format, by becoming a **BSI Subscribing Member**.

PLUS is an updating service exclusive to BSI Subscribing Members. You will automatically receive the latest hard copy of your standards when they're revised or replaced.

To find out more about becoming a BSI Subscribing Member and the benefits of membership, please visit bsigroup.com/shop.

With a **Multi-User Network Licence (MUNL)** you are able to host standards publications on your intranet. Licences can cover as few or as many users as you wish. With updates supplied as soon as they're available, you can be sure your documentation is current. For further information, email bsmusales@bsigroup.com.

BSI Group Headquarters

389 Chiswick High Road London W4 4AL UK

Revisions

Our British Standards and other publications are updated by amendment or revision.

We continually improve the quality of our products and services to benefit your business. If you find an inaccuracy or ambiguity within a British Standard or other BSI publication please inform the Knowledge Centre.

Copyright

All the data, software and documentation set out in all British Standards and other BSI publications are the property of and copyrighted by BSI, or some person or entity that owns copyright in the information used (such as the international standardization bodies) and has formally licensed such information to BSI for commercial publication and use. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI. Details and advice can be obtained from the Copyright & Licensing Department.

Useful Contacts:

Customer Services

Tel: +44 845 086 9001

Email (orders): orders@bsigroup.com

Email (enquiries): cservices@bsigroup.com

Subscriptions

Tel: +44 845 086 9001

Email: subscriptions@bsigroup.com

Knowledge Centre

Tel: +44 20 8996 7004

Email: knowledgecentre@bsigroup.com

Copyright & Licensing

Tel: +44 20 8996 7070

Email: copyright@bsigroup.com



...making excellence a habit.™